R E M A R K S

The Examiner has indicated that new corrected drawings are required. Applicants submit herewith one (1) sheet of formal drawing for Fig. 1 for the Examiner's approval.

In the present Office, Claim 30 has been objected to because it is an exact duplicate of claim 28. Accordingly, claim 30 has been canceled.

Counsel for applicant wishes to thank Examiner Jackson for the courtesy of the recent telephone interview. In the interview, counsel for applicant discussed with Examiner Jackson the teachings of the present invention as well as that of the cited prior art, namely, Sinclair et al., Horn, and Stewart et al.

Substantively, in the present Office Action, claims 1-2, 4, 6, 8-10, 12, 14, 16-18, 21, 23-27, 29, 31, 34 and 37-38 have been rejected under 35 U.S.C. §102(b) as being anticipated by Stewart et al. (USPN 6,045,227). Claims 1, 5, 26 and 33 have been rejected under 35 U.S.C. §102(b) as being anticipated by Sinclair (USPN 5,589,897). Claims 1-8, 10-16, 18-23, 25-29 and 32-38 have been rejected under 35 U.S.C. §102(e) as being anticipated by Horn (USPN 6,260,970). Additionally, claims 9, 17, 24 and 31 have been alternately rejected under 35 U.S.C. § 103(a) as being obvious over Horn in view of Stewart et al. Applicant respectfully traverses these rejections for the reasons set forth below.

Applicant's invention is directed to a method for establishing fixation during computerized visual field perimetry using speech recognition. Specifically, it requires the subject to verbally identify the symbols (alternatively, the direction of movement, or change in symbols) employed as **fixation targets** as they each

appear. Voice recognition techniques are then employed to evaluate the subject's response, and upon correctly identifying the fixation symbol, a visual test stimulus is then displayed at a predetermined location within the subject's visual field. Alternatively, the direction of movement or change in symbols of the fixation target can be identified instead.

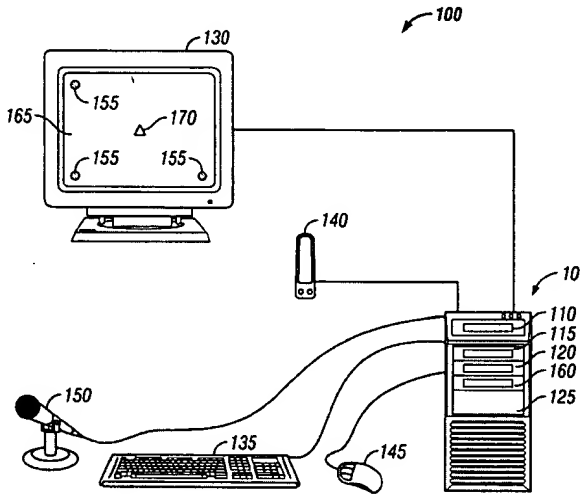

FIG. 1

Referring to Fig. 1 of the specification, reproduced herein above, fixation is established by displaying to the subject fixation target(s) (170) represented by varying symbols, which may be displayed at one or more location on a display monitor (130). These so-called fixation symbols (170), include geometrical shapes, letters, numbers, pictures or other symbols readily identifiable by the subject. When a **fixation symbol** (170) appears, the subject **verbally identifies** the symbol of the fixation target by saying the name of the symbol into a microphone (150), e.g., "X," "O," "square," "triangle," among other symbols. See claims 1 and 26. Alternatively, the subject can identify when the direction or the symbol of the fixation target changes. See, claims 11 and 19,

respectively. Using speech recognition, the system recognizes the response from the subject, and evaluates whether the symbol was correctly identified by the subject. Upon being correctly identified, the fixation symbol (170) disappears, and a flashing visual test stimulus (155) is displayed within the subject's field of view for a preset time. The visual test stimulus appears rapidly after the correct identification of the fixation symbol. If the subject observes the flashing visual test stimulus (155), he/she response by saying "yes" and, the system pauses for a short time. This is repeated with different, randomly selected fixation symbols (170) which may be located at the same place or moved to different locations in order to broaden the area of coverage tested on the retina. This series of steps is repeated until all preprogrammed locations determined by the type of visual field perimetry are performed.

The independent claims of the present invention, however, have been rejected as being anticipated by Stewart et al. In contrast to applicants' invention, Stewart et al. discloses a total immersion visual test instrument 100 having two viewing assemblies 105, 105', and two displays 110, 110' which are all enclosed in the a unitary housing 115 that is slidably or pivotally attached to a movable mount 120. In operation, various test objects or stimuli are viewed by the subject on the displays through the two viewing assemblies. The instrument preferably includes a computer provided with a collection of software programs directing the operation of the visual test instrument, conducting the test, storing the results, evaluating the responses of the subject.

The Examiner argues that Stewart et al. teaches the claimed "method and visual parameter for establishing fixation." The Examiner, however, misplaces his reliance on Stewart et al. Stewart

et al. simply discloses a visual instrument. While a patient fixes his eyes on a fixation point, test objects or stimuli are displayed and viewed by the patient on two viewing assemblies. The shape, size, speed, frequency, location, color, contrast and intensity, among others, of the test objects or stimuli are computer generated and controlled. Col. 3:30-33. If desired, visual test instrument 100 may also be provided with a microphone 137 and a speaker or earphone 138 for audio communication and feedback to computer 130 so as to effect the use of voice recognition and/or audible instructions. Col. 3:57-61.

Applicant agrees that Stewart et al. discloses the desirability of voice recognition in responding to visual stimuli. However, that mere fact does not anticipate applicant's claimed invention. Concepts do not anticipate. Anticipation requires that each and every element of the claimed invention be disclosed in a singe prior art reference. Applicant respectfully submits that Stewart et al. fails to teach the specific steps and the sequence of applicant's claimed invention.

Applicant's inventively established fixation by displaying a fixation target to the subject. When the **fixation symbol** appears, the subject **verbally identifies** the symbol by saying the name of the symbol (alternatively, when the direction or symbol of the fixation target changes). Using speech recognition, the system recognizes the response from the subject, and evaluates whether the symbol was correctly identified by the subject. Upon being correctly identified, the fixation symbol disappears, and a flashing visual test stimulus is then displayed within the subject's field of view for a preset time. The need to observe the fixation symbol while verbally identifying the symbol establishes fixation. This is so, since it is unlikely that the subject can correctly

identify the fixation symbol if he/she is looking away from the fixation symbol. Once fixation has been established, the subject's eye is unlikely to wander before the flashing test stimulus is displayed since the identification and visual stimulus display occur in rapid sequence.

Stewart et al., however, merely teaches that the subject could respond to the visual stimuli using voice recognition. Stewart et al., however, fails to teach or suggest that visual stimulus should be displayed upon the fixation target being verbally identified correctly by the subject (alternatively, when the direction or symbol of the fixation target changes). The Examiner has simply disregarded the step-to-step relationships set forth in the claims that gives those claims their meaning. Absent the hindsight gleaned from applicant's invention, Stewart et al. fails to teach or suggest the specific steps and sequence associated between the fixation target and the visual test stimuli. This is not surprising since Stewart et al. is concerned with a general purposed visual instrument, more particularly concerned with achieving a so-called "total immersion," and not a method for establishing fixation.

The only relationship disclosed in Stewart et al. is that the visual stimuli is displayed while the patient fixes his vision on the fixation mark. That the visual stimulus is displayed when the fixation symbol is correctly identified is nowhere remotely shown, taught or suggested. Identifying what symbol is used as the fixation target is **not** relevant in Stewart et al., but critical to applicant's claimed invention. (Nor, is it relevant to Stewart et al. identifying when the direction or symbol of the fixation changes.) It is the identification of the symbol used as the fixation target that establishes fixation in applicant's claimed

invention. Stewart et al. does not require the subject to verbally identify the symbols employed as **fixation targets** as they each appear before displaying the visual test stimuli.

Claims 1, 5, 26 and 33 have also been rejected under 35 U.S.C. §102(b) as being anticipated by Sinclair (USPN 5,589,897). Sinclair discloses a method for testing a patient having an impaired central field vision. A fixation target 13 is flashed or pulsated on a monitor screen, such as a star, cross or X. Once the eye being tested is fixed upon the fixation target 13, a series of symbols (visual test stimuli) at pseudo-random positions and orientations are displayed to the patient. The symbols are preferably in the form of a "C". The "C" is displayed on the monitor, with the opening in the "C" oriented upwardly, downwardly, facing left or facing right. The patient signals his perception of the orientation of the opening in the "C" utilizing a 4-way toggle switch, joy stick or other multi-axis input device or computer input method such as speech recognition to indicate the orientation.

Applicant agrees that Sinclair discloses the desirability of voice recognition in responding to visual stimuli (the C's). Again, concepts do not anticipate. Anticipation requires that each and every element of the claimed invention be disclosed in a singe prior art reference. Applicant respectfully submits that Sinclair similarly fails to teach the specific steps and the sequence of applicant's claimed invention.

Sinclair, fails to teach or suggest that visual stimulus should be displayed upon the fixation target being verbally identified correctly by the subject. Again, the Examiner has simply disregarded the step-to-step relationships set forth in the

claims that gives those claims their meaning. Absent the hindsight gleaned from applicant's invention, Sinclair fails to teach or suggest the specific steps and sequence associated between the fixation target and the visual test stimuli. The only relationship disclosed is that the visual stimuli is displayed while the patient fixes his vision on the fixation target. That the visual stimulus is displayed when the fixation symbol is correctly identified is nowhere remotely shown, taught or suggested. Identifying what symbol is used as the fixation target is **not** relevant in Sinclair, but critical to applicant's claimed invention. Nor, is it relevant to Sinclair when the direction or symbol of the fixation target changes.

Claims 1-8, 10-16, 18-23, 25-29 and 32-38 have been rejected under 35 U.S.C. §102(e) as being anticipated by Horn (USPN 6,260,970. Horn discloses a method for detecting the presence of eye disease in the human eye, such as glaucoma. The subject is presented with a fixation target displayed against a color background. Fixation is established by the subject following a moving or "floating" fixation object 11 that moves vertically and horizontally. That is, the subject is required to move the cursor 125 associated with a computer mouse 4 in synchronization with the moving fixation object 11. The blind spot of the subject is then determined using a peripheral target 29 that slowly travels temporally away from the fixation object 11.

The Examiner has mistakenly read Horn in arguing that the subject responds verbally to the visual stimuli. The specification of Horn read as follows:

> Any instructions and/or notices (81) intended to be delivered to test subject 9, either before, during or after testing, may be

> provided in the form of printed material, or may be presented to the test subject using text, graphics, video or speech and/or other audio representations generated using the graphical and audio capabilities of the computer system 1. Col. 6:66-Col.7:5

As such, the subject does not verbally respond to visual stimuli, but rather instructions are merely presented to the subject using audio means. Also, Horn discloses that fixation is achieved by the subject tracking a fixation target. As such, there is simply no motivation to use speech recognition to effect another means of fixation. Nor is there is any teaching or suggestion that the subject verbally identify the symbols employed as **fixation targets** as they each appear, before displaying the visual test stimuli. Again, identifying the symbol used as the fixation target is not relevant to Horn.

In view of the remarks above, applicant believes independent claims 1, 11, 19, 26 to be allowable. Since independent claims 1, 11, 19, and 26 are allowable, it is believed that the dependent claims therefrom are also allowable, namely, claims 2-10, 12-18, 20-25 and 27-29, and 31-36.

Since this application is believed to be in condition for allowance, reconsideration and allowance are respectfully solicited.

Respectfully Submitted,
Attorney For Applicant

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John G. de la Rosa (Reg. No.)